

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A composition for enhancing the introduction efficiency of a target substance into a cell, comprising:

a) a cellular adhesion related agent, wherein the cellular adhesion related agent comprises an interaction substance interacting with a cellular adhesion molecule and wherein the interaction substance is an antibody or a derivative thereof; and

b) a target substance comprising a genetic material;

wherein the composition enhances the introduction efficiency of the target substance into a cell.

2. (Canceled)

3. (Withdrawn) A composition according to claim 2, wherein the cellular adhesion molecule is an extracellular matrix.

4. (Currently Amended) A composition according to claim 2, wherein the cellular adhesion molecule is an integrin receptor.

5. (Withdrawn) A composition according to claim 2, wherein the cellular adhesion molecule comprises an RGD molecule.

6. (Canceled)

7. (Canceled)

8. (Currently Amended) A composition according to claim 2~~1~~, wherein the interaction ~~molecule-substance~~ is a monoclonal or polyclonal antibody.

9. (Withdrawn) A composition according to claim 2, wherein the interaction molecule comprises an antibody selected from the group consisting of an anti-CD49a antibody, an anti-CD49b antibody, an anti-CD49c antibody, an anti-CD49c antibody, and an anti-CD49f antibody.

10. (Canceled)

11. (Original) A composition according to claim 1, wherein the target substance comprises a nucleic acid molecule.

12. (Original) A composition according to claim 1, wherein the target substance comprises DNA.

13. (Original) A composition according to claim 4, wherein the integrin receptor is selected from the group consisting of CD49a, CD49b, CD49c, CD49d, CD49e, CD49f and CD29.

14. (Original) A composition according to claim 4, wherein the integrin receptor is selected from the group consisting of CD29, CD49a, CD49c, Cd49d, CD49e and CD49f.

15. (Original) A composition according to claim 4, wherein the integrin receptor interacts with a molecule selected from the group consisting of collagen, fibronectin, vitronectin and laminin.

16. (Original) A composition according to claim 1, wherein the cell comprises at least one cell selected from the group consisting of a stem cell and a differentiated cell.

17. (Original) A composition according to claim 1, wherein the cellular adhesion molecule is specifically expressed in the cell.

18. (Currently Amended) A composition according to claim 1, wherein the ~~target substance is a genetic material and~~ the composition further comprises a gene introduction reagent selected from the group consisting of a cationic macromolecule, cationic lipid and calcium phosphate.

19. (Canceled)

20. (Original) A composition according to claim 1, further comprising a particle.

21. (Original) A composition according to claim 20, wherein the particle comprises a gold colloid.

22. (Original) A composition according to claim 1 further comprising a salt.

23. (Original) A composition according to claim 22, wherein the salt is selected from the group consisting of salts comprised in a buffer and salts comprised in media.

24. (Withdrawn) A kit for enhancing gene introduction efficiency, comprising:

- (a) a cellular adhesion related agent; and
- (b) a gene introduction reagent.

25. (Withdrawn) A composition for introducing a target material to a cell, comprising:

- (A) a target material; and
- (B) a cellular adhesion related agent.

26. (Withdrawn) A composition according to claim 25, wherein the target material comprises a substance selected from the group consisting of DNA, RNA, polypeptide, sugar and a complex thereof.

27. (Withdrawn) A composition according to claim 25, wherein the target material comprises a DNA encoding a gene sequence to be transfected into the cell.

28. (Withdrawn) A composition according to claim 25 further comprising a gene introduction reagent.

29. (Withdrawn) A composition according to claim 25, wherein the cellular adhesion related agent comprises an interaction substance interacting with a cellular adhesion molecule.

30. (Withdrawn) A composition according to claim 25, wherein the cellular adhesion related agent comprises an antibody to a cellular adhesion molecule.

31. (Withdrawn) A composition according to claim 25 which is present as a liquid phase.

32. (Withdrawn) A composition according to claim 25 which is present as a solid phase.

33. (Withdrawn) A device for enhancing gene introduction efficiency of a target molecule into a cell, comprising:

(a) a target molecule; and

(b) a cellular adhesion related agent,

wherein the cellular adhesion related agent is immobilized onto a support.

34. (Withdrawn) A device according to claim 33, wherein the target substance comprises a substance selected from the group consisting of DNA, RNA, polypeptide, sugar and a complex thereof.

35. (Withdrawn) A device according to claim 33, wherein the target substance comprises a DNA encoding a gene sequence for the purpose of gene expression.

36. (Withdrawn) A device according to claim 33, further comprising a gene introduction reagent.

37. (Withdrawn) A device according to claim 36, wherein the cellular adhesion related agent comprises an interaction substance interacting with a cellular adhesion molecule.

38. (Withdrawn) A device according to claim 36, wherein the cellular adhesion related agent comprises an antibody against a cellular adhesion molecule.

39. (Withdrawn) A device according to claim 36, wherein the support is selected from the group consisting of a plate, a microwell plate, a tip, a slide glass, a film, a bead and metal.

40. (Withdrawn) A device according to claim 36, wherein the support is coated with a coating agent.

41. (Withdrawn) A device according to claim 40, wherein the coating agent comprises a substance selected from the group consisting of poly-L-lysine, silane, MAS, hydrophobic fluorine resin and metal.

42. (Withdrawn) A method for enhancing the introduction efficiency of a target substance into a cell, comprising the steps of:

A) providing a target substance;

B) providing a cellular adhesion related agent; and

C) contacting the target substance and the cellular adhesion related substance with the cell.

43. (Withdrawn) A method according to claim 42, wherein the target material comprises a substance selected from the group consisting of DNA, RNA, polypeptide, sugar and a complex thereof.

44. (Withdrawn) A method according to claim 43, wherein the target material comprises a DNA encoding a gene sequence to be transfected in the cell.

45. (Withdrawn) A method according to claim 42, further comprising a gene introduction reagent.

46. (Withdrawn) A method according to claim 42, wherein the cellular adhesion related agent comprises an interaction substance interacting with a cellular adhesion molecule.

47. (Withdrawn) A method according to claim 42, wherein the cellular adhesion related agent comprises an antibody to a cellular adhesion molecule.

48. (Withdrawn) A method according to claim 46, wherein the cellular adhesion molecule is an extracellular matrix molecule.

49. (Withdrawn) A method according to claim 42, wherein the method is conducted in a liquid phase.

50. (Withdrawn) A method according to claim 42, wherein the method is conducted in a solid phase.

51. (Withdrawn) A method for enhancing the introduction efficiency of a target substance into a cell, comprising the steps of:

I) immobilizing a composition comprising

A) a target substance, and

B) a cellular adhesion molecule onto a support;

and

II) contacting a cell to the composition on the support.

52. (Withdrawn) A method according to claim 51, further comprising the step of providing a gene introduction reagent, said gene introduction reagent being contacted with the cell.

53. (Withdrawn) A method according to claim 52, further comprising the step of forming a complex between the target substance and a gene introduction reagent after the provision thereof, wherein thereafter the cellular adhesion related agent is provided.

54. (Withdrawn) A method according to claim 51, wherein the cellular adhesion related agent comprises an interaction substance interacting with a cellular adhesion molecule.